Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1. (Currently amended) A heat exchanger, in particular for a supercritical refrigeration cycle, having a block comprising tubes and fins, it being possible for a gaseous medium, in particular air, to flow over the fins, and it being possible for a second medium, in particular a refrigerant, to flow through the tubes, which are arranged in a plurality of rows, in particular in cross-countercurrent to the gaseous medium, characterized in that wherein at least four rows of tubes (1.1, 1.2, 1.3, 1.4) are arranged in series in the direction of flow L of the gaseous medium.
- 2. (Currently amended) The heat exchanger as claimed in claim 1, eharacterized in that wherein at least five rows of tubes (2.1, 2.2, 2.3, 2.4, 2.5) are arranged in series.
- 3. (Currently amended) The heat exchanger as claimed in claim 1 or 2, characterized in that wherein six rows of tubes (3.1, 3.2, 3.3, 3.4, 3.5, 3.6) are arranged in series.
- 4. (Currently amended) The heat exchanger as claimed in one of claims 1 to 3, characterized in that claim 1, wherein the tubes are formed as flat tubes (9) and the fins are formed as corrugated fins (10, 12, 13, 15).
- 5. (Currently amended) The heat exchanger as claimed in claim 4, eharacterized in that wherein the flat tubes (9) are formed as extruded multichamber tubes.
- 6. (Currently amended) The heat exchanger as claimed in one of elaims 1 to 5, eharacterized in that claim 1, wherein medium can flow through the tubes R of a row of tubes (1.1, 1.2, 1.3, 1.4) in parallel.

- 7. (Currently amended) The heat exchanger as claimed in claim 6, eharacterized in that medium can flow through the rows of tubes (1.1 to 1.4; 2.1 to 2.5; 3.1 to 3.6) in series.
- 8. (Currently amended) The heat exchanger as claimed in one of claims 1 to 5, eharacterized in that claim 1, wherein at least one row of tubes (4.3, 4.4) is divided into tube segments (3a, 3b, 4a, 4b) with individual tubes through which medium can flow in succession.
- 9. (Currently amended) The heat exchanger as claimed in claim 8, characterized in that wherein the rows of tubes (4.3, 4.4) which are divided into tube segments (3a, 3b, 4a, 4b) are arranged upstream of the undivided rows of tubes (4.1, 4.2), as seen in the direction of flow L of the gaseous medium.
- 10. (Currently amended) The heat exchanger as claimed in claim 8, eharacterized in that wherein all the rows of tubes (6.1 to 6.4; 7.1 to 7.4) are divided into tube segments (1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b) through which medium can flow in series.
- 11. (Currently amended) The heat exchanger as claimed in claim 10, eharacterized in that wherein the tube segments (1a to 4b) have different numbers of tubes.
- 12. (Currently amended) The heat exchanger as claimed in claim 10, characterized in that wherein the tube segments (1a to 4b) have approximately equal numbers of tubes.
- 13. (Currently amended) The heat exchanger as claimed in claim 10, eharacterized in that wherein the ratio a/b of the numbers a, b of the tubes of two tube segments (1a, 1b; 2a, 2b) in a row of tubes (6.1; 6.2) is in a range from 0.7 to 1.35.
- 14. (Currently amended) The heat exchanger as claimed in one of claims 8 to 13, characterized in that claim 8, wherein the tube segments (1a, 1b; 2a, 2b; 3a, 3b; 4a, 4b) are connected by header tubes and are separated by partition walls in the header tubes.

- 15. (Currently amended) The heat exchanger as claimed in one of claims 1 to 14, characterized in that claim 1, wherein adjacent rows of tubes are connected to one another by diverter members (V).
- 16. (Currently amended) The heat exchanger as claimed in one of claims 4 to 15, characterized in that claim 4, wherein the corrugated fins (10) of the individual rows of tubes (8.1 to 8.4) are thermally decoupled.
- 17. (Currently amended) The heat exchanger as claimed in claim 4 to 15, characterized in that in claim 4, wherein each case two rows of tubes (11.1, 11.2; 11.3, 11.4) have common, continuous corrugated fins (12, 13).
- 18. (Currently amended) The heat exchanger as claimed in elaim 4 to 15, characterized in that claim 4, wherein all the rows of tubes (14.1 to 14.4) have common, continuous corrugated fins (15).
- 19. (Currently amended) The heat exchanger as claimed in one of claims 4 to 18, characterized in that claim 4, wherein the flat tubes (9) of different rows of tubes (11.1 to 11.4) are arranged aligned with one another.
- 20. (Currently amended) The heat exchanger as claimed in one of claims 4 to 18, characterized in that claim 4, wherein the flat tubes (9) of different rows of tubes (16.1 to 16.4) are arranged offset with respect to one another.
- 21. (Currently amended) The heat exchanger as claimed in one of claims 4 to 20, eharacterized in that claim 4, wherein the transverse pitch t_R of the flat tubes (9) is identical in all the rows of tubes (16.1 to 16.4).
- 22. (Currently amended) The heat exchanger as claimed in elaim 4 to 20, characterized in that claim 4, wherein the transverse pitch t_R of adjacent rows of tubes varies.

- 23. (Currently amended) The heat exchanger as claimed in one of the preceding claims, eharacterized in that claim 1, wherein the block has a finned end face with a height H and a width B, and in that the ratio of B/H is in the range from 0.8 to 1.2.
- 24. (Currently amended) The heat exchanger as claimed in claim 23, characterized in that wherein the end face is approximately square in form.
- 25. (Currently amended) The heat exchanger as claimed in claim 23 or 24, characterized in that claim 23, wherein the end face has a surface area A in a range from 4 dm² to 16 dm².
- 26. (Currently amended) The use of the heat exchanger as claimed in one of the preceding claims claim 1 as a gas cooler in a supercritical refrigeration cycle of a motor vehicle air-conditioning system, which is preferably operated with R744 (CO₂).